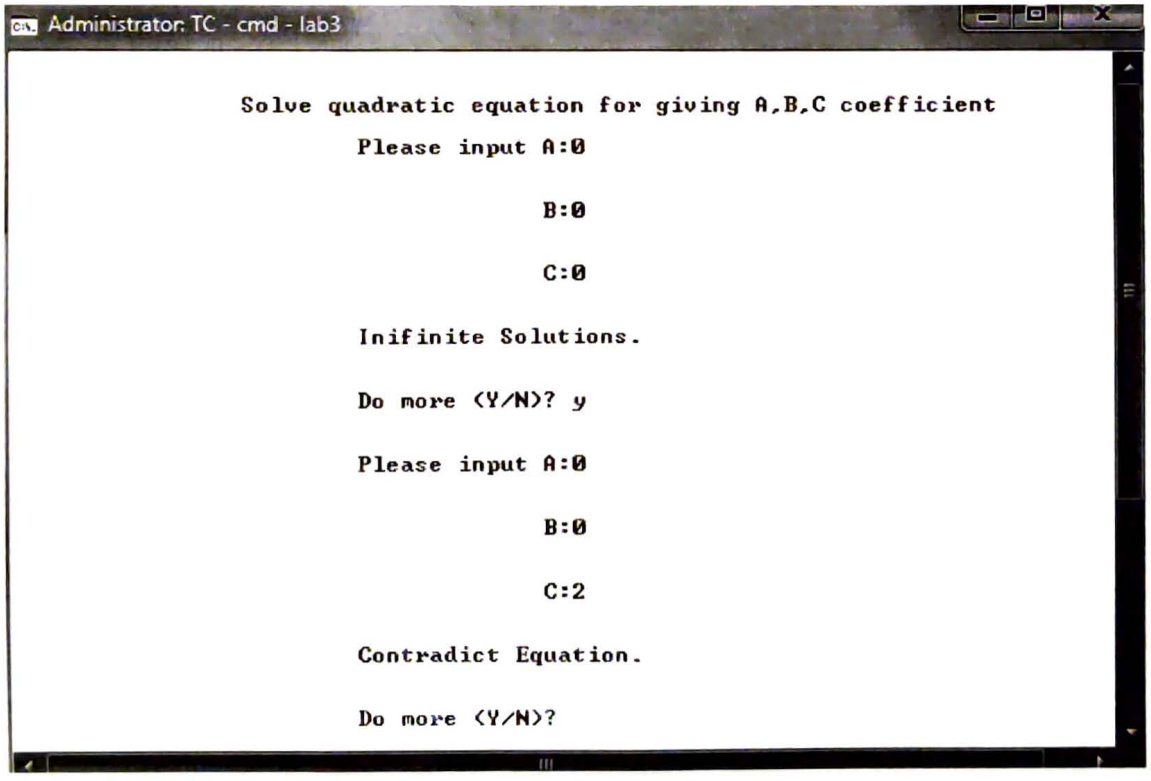
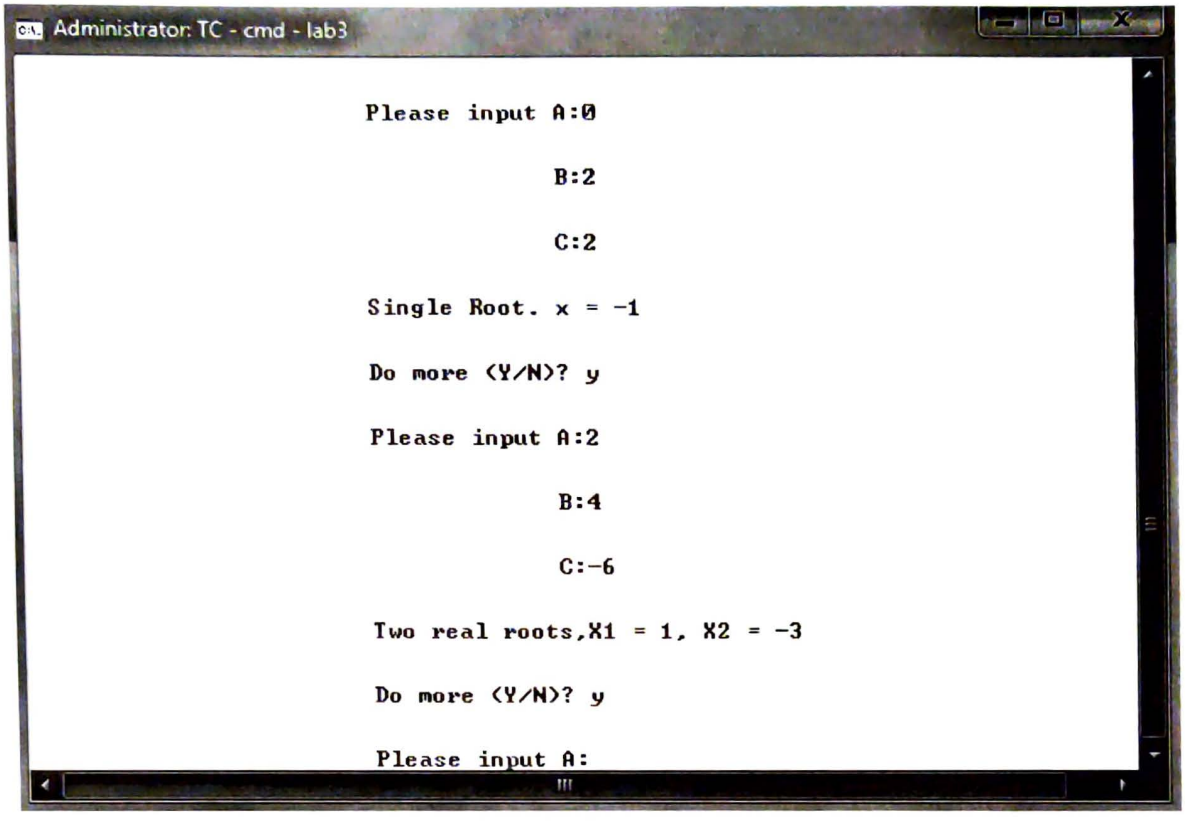
Lab – 3 Solve Quadratic Equations

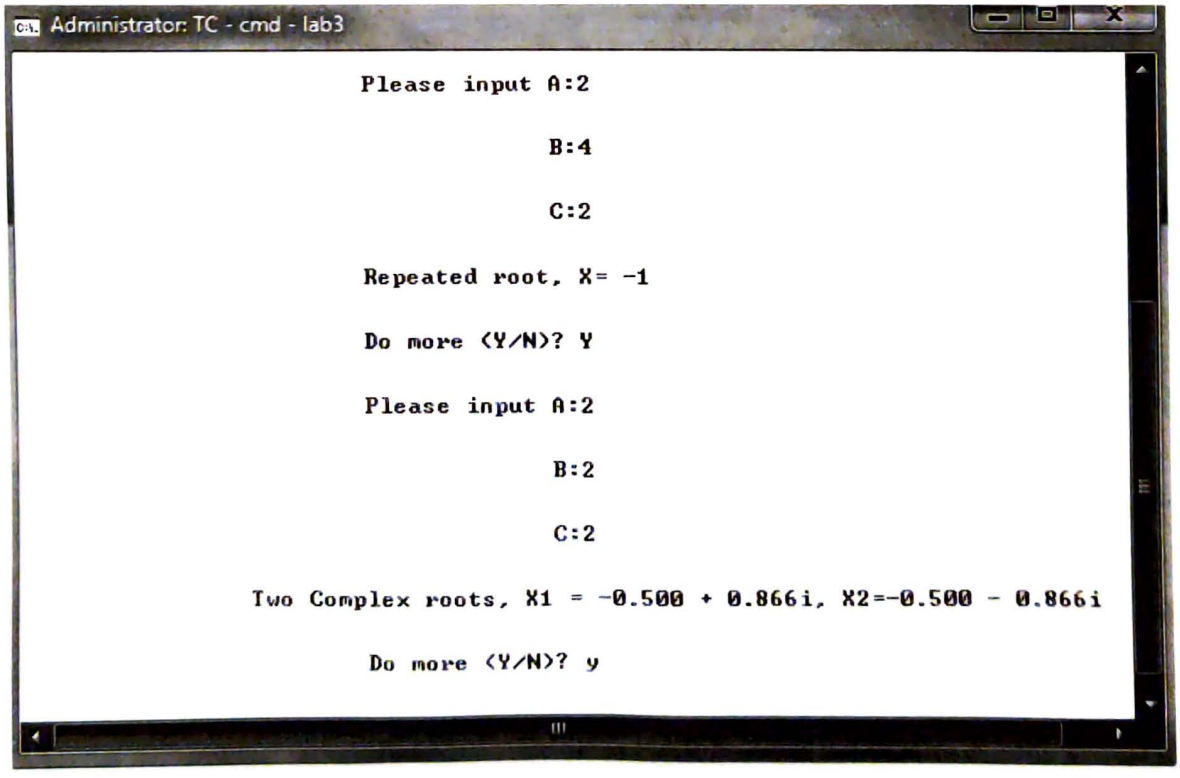
In human being history, we all interest to solve quadratic equation $ax^2 + bx + c = 0$ back to 1800 BC. And we know the formula since then,

$$x = (-b + \sqrt{b^2 - 4ac})/2a$$
$$x = (-b - \sqrt{b^2 - 4ac})/2a$$

The formula says, once we know the values of a, b, and c, then we can find the solution. But there is a big problem: when you design the program, you don't know what a, b, c you will get. So you have to write a program to protect yourself. Do NOT let the user to mess up your code, it means you did a good job. (Hint: there are six different output for this problem. Which six? Enjoy it!!)




Administrator: TC - cmd - lab3
Please input A:0
B:2
C:2
Single Root. x = -1
Do more (Y/N)? y
Please input A:2
B:4
C:-6
Two real roots,X1 = 1, X2 = -3
Do more (Y/N)? y
Please input A:


Administrator: TC - cmd - lab3
Please input A:2
B:4
C:2
Repeated root, X= -1
Do more (Y/N)? Y
Please input A:2
B:2
C:2
Two Complex roots, X1 = -0.500 + 0.866i, X2=-0.500 - 0.866i
Do more (Y/N)? y